

## BALL GRID ARRAY MODULE

### ABSTRACT OF THE DISCLOSURE

5 A Plastic Ball Grid Array electronic package of the Cavity  
Down type for use in HF application. The present invention allows  
to reduce the overall thickness of the package, by tailoring the  
different mechanical portions of the module structure  
(interconnection balls, grounded stiffener thickness). A thin  
dielectric layer is laid on a metal (e.g. copper) stiffener. A  
chip is attached on the same side of the dielectric layer and the  
electrical connections between the chip and the pads are done with  
metallic traces running on the surface of the dielectric layer.  
10 The external rows of balls are not connected to the circuit traces;  
they are electrically connected to the metal stiffener to realize  
the lateral shielding for the HF applications. The connection  
between the balls and the metal stiffener (which acts as the ground  
plane) is done by means of photovias. One of the more important  
15 aspects of the present invention is the dramatic reduction of the  
parasitic impedance.